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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,475	08/20/2003	Craig A. Campbell	G00348/US	5951
35758	7590	02/24/2005	EXAMINER	
GKN DRIVELINE NORTH AMERICA, INC 3300 UNIVERSITY DRIVE AUBURN HILLS, MI 48326			JULES, FRANTZ F	
			ART UNIT	PAPER NUMBER
			3617	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,475

Applicant(s)

CAMPBELL, CRAIG A.

Examiner

Frantz F. Jules

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 5-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. In view of the Information Disclosure Document filed on 01/24/2005 PROSECUTION IS HEREBY REOPENED. Applicant's IDS dated 01/24/2005 was made available after the Final Rejection dated 01/20/2005 was written. A new non-final rejection is set forth below. The amendment has been entered.

To avoid abandonment of the application, appellant must exercise the following options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 6-7, 8-9, 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kragtwijk (EP 763 448 A1).

Kragtwijk discloses a propeller shaft for a vehicle comprising an elongated hollow cylindrical body (4) and a reduced profile intermediate portion (2) having a reduced diameter as compared to the body and defining two transition areas (6, 10) one at each end thereof between the intermediate portion and the body, see fig. 1, wherein in the region of the transition area prior to receiving a sufficient axial load from a crash event, at least part of the cylindrical body lies over the intermediate portion such that upon

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receiving the sufficient axial load and during the fracture in the region of the transition area, the body telescopes over the intermediate portion.

The shaft being a metal shaft in accordance with claims 2 and 9.

The intermediate portion being parallel to the main body portion in accordance with claims 6 and 11.

The intermediate portion being angled by at least zero or 180 degrees with respect to the main body portion in accordance with claim 7 and 12.

Regarding the limitation of at least one spin-formed transition area as recited in claim 8, it has been established that a process limitation carry no weight in an apparatus claim.

The intermediate portion being laid over the cylindrical body portion between 1 and 10 mm.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kragtwijk in view of Thompson (US 2,988,805).

Kragtwijk teach all the limitations of claims 14-19 except for a method of making a propeller shaft comprising the step of spin cold forming a reduced profile intermediate portion a hollow cylindrical body. The general concept of spin cold forming an intermediate portion in a hollow cylindrical body is well known in the art as illustrated by

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Thompson which discloses the teaching of spin cold forming a reduced profile intermediate portion in a hollow cylindrical body. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kragtwijk to include the use of spin cold forming a hollow cylindrical body in his advantageous method of forming a propeller shaft in order to reduce induced stress in the intermediate portion.

6. Claims 5 and 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kragtwijk.

Regarding using an intermediate portion length of between 5 and 30 percent of the length of the propeller shaft as recited in claims 5 and 10, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kragtwijk to include the use of an intermediate portion length of between 5 and 30 percent of the length of the propeller shaft in his advantageous system, as collapsible area design is a common and everyday occurrence throughout the propeller shaft design art and the specific use of an intermediate portion length of between 5 and 30 percent of the length of the propeller shaft would have been an obvious matter of design preference depending upon such factors as the weight of the magnitude of the load imposed on the shaft, the yield strength of the shaft material, the targeted magnitude of the absorption; the ordinarily skilled artisan choosing the best stress profile corresponding to a particular loading imposed on the propeller shaft which would most optimize the cost and performance of the device for a particular application at hand, based upon the above noted common design criteria.

Response to Arguments

7. Applicant's arguments filed 02/01/2005 have been fully considered but they are moot in view of the new grounds of rejection.

Applicant's disclosure information submitted on 01/25/2005 contained the Kragtwijk reference which reads on the claims as described above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz F. Jules whose telephone number is (703) 308-8780. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Morano can be reached on (703) 308-0230. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frantz F. Jules
Primary Examiner
Art Unit 3617

FRANTZ F. JULES
PRIMARY EXAMINER


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February 22, 2005